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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,231	07/07/2003	Peter J. Angelini	038712/239487	8377

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EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/615,231

Applicant(s)

ANGELINI ET AL.

Examiner

Krishnan S. Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
4a) Of the above claim(s) 27-36 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claims 1-36 are pending as originally filed.

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-26, drawn to composite support for semipermeable membrane, classified in class 210, subclass 491.
- II. Claim^s₂₇-36, drawn to process of making composite support, classified in class 162, subclass 123.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can make another materially different product such as filters, and the product as claimed can be made by another materially different process such as the dry process.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Raymond Linker on 4/25/05 a provisional election was made with traverse to prosecute the invention of I, claims 1-26. Affirmation of this election must be made by applicant in replying to this Office action. Claims 27-36 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-14, 16-18, 20-22, 24 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as being obvious over, Shinjou et al (US 4,795,559).

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Claims 1,17 and 21: Shinjou teaches a composite support for a semipermeable membrane (abstract) having a spun-bonded non-woven fabric first layer of continuous polyester fibers (high density melt-blown layer: col 4 lines 1-3) and a non-woven second layer of discrete length polyester fibers (low density layer: col 3 lines 12-35) as claimed. The low-density layer of discrete fibers is not wet-laid in the reference, but dry air laid or carded. However, wet-laid or dry-laid relate to process of making the layer, and is unpatentable as the product structure is not discernable based on the process. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re *Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

The polyester polymer binder as in claims 17 and 21 is inherent in the support taught by the reference even if the term ‘binder’ is not used – para linking columns 4 and 5. Also see col 3 lines 30-36: conjugate fibers have lower melting point. Semipermeable membrane or porous polymer layer on the second surface (surface of the wet-laid layer, which would be the low density layer in the reference) as in claim 21: col 6 lines 38-46.

Claims 2-7: all fibers are thermoplastic and polyester – abstract, col 3 line 5 – col 5 line 2.

Claims 9,10: fiber dimensions – examples, abstract, col 3 line 5 – col 4 line 34.

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Claims 11,12: basis weight is inherent, since the fibers and the dimensions are the same. The express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. 102 or 103. "The inherent teaching of a prior art reference, a question of fact, arises both in the context of anticipation and obviousness." In re Napier, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (affirmed a 35 U.S.C. 103 rejection based in part on inherent disclosure in one of the references). See also In re Grasselli, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983).

Claims 13,14, 16, 24 and 26: porous polymer layer or membrane: the reference teaches the generic membrane and, specifically, polysulfone – col 6 lines 38-46. Other polymers in the Markush group are considered obvious variants of polysulfone because the invention claimed is essentially for a membrane support.

Claim 20: calendered – col 5 lines 3-10

Claim 8,18, 22: polyester copolymer binder having a low melting point. Shinjou in col 4 line 64 – col 5 line 2 describe how the lamination is done with mixture of drawn and undrawn fibers or conjugate fibers. Conjugate fibers are taught as having melting point 120-220C (col 3 lines 31-36). The reference also inherently teaches a well-known fact that amorphous polyester fiber has a lower melting point than the drawn (crystalline) fibers (col 4 lines 16-34). Thus the reference teaches a lower-melting polyester. The binder would be inherently present at the interface because of the lamination (claim 22).

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For the inherent low-melting property of undrawn polyester fiber, please see US patent to Newman, US 4,039,711, at col 3 lines 12-23.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinjou'559.

Shinjou teaches all the limitations of claims 18 and 22 as given under caption paragraph 1 above. Claims 19 and 23 add the further limitation of the binder being present in the spun-bonded layer as well. Shinjou teaches the spun-bonded (melt-blown) polyester layer as self-bonded (col 4 lines 60-63), but does not say if the layer has fibers of different melting points. However, the claims are deemed unpatentable because the claims recite the product (membrane support) and the binder does not make any unobvious structural difference to the product, unless the applicant can show otherwise, with evidence.

3. Claim 15 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shinjou'559 as applied to claims 14 or 21 above and further in view of Cadotte et al (US 4,765,897).

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Shinjou teaches a polymeric membrane over the support layer but does not specifically teach a porous polymer layer on the support, and then the semipermeable membrane adhered to the surface of the porous polymer layer. However, such membrane is well known in the art as taught by Cadotte – col 3 lines 1-37, for desalination and other such applications. It would be obvious to one of ordinary skill in the art at the time of invention to use the support taught by Shinjou for making such reverse osmosis membranes as taught by Cadotte because of the superior structural qualities of the Shinjou support, like strength, non-peeling, no-pinholes, etc – see Shinjou col 1 lines 9-31.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Krishnan S. Menon
Patent Examiner
4/26/05


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